

Research on the influence of innovative technological activities of enterprises on the requirements towards marketer's competences

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Abstract. The aim of the study is to substantiate the relationship between the parameters of the demand for professional competence of marketers and various factors of innovation and technological activity of enterprises allowing more accurate determination of composition of professional, personal competencies and non-traditional requirements for job seekers. To achieve this goal, the authors identify the factors leading to the change in requirements for professional competencies of marketers including the level of innovation and technological activity of enterprises, the technological level of production, the scale and size of the organization, the place of organization in the production and technological chain formed along the product life cycle. Based on comparative analysis of innovation activity statistics, conclusions are made about significant differences in this kind of activity levels in the sectors of the region's economy. In order to determine the requirements that employers impose on job seekers in the field of marketing, a study was conducted. The results of the study can be used by educational institutions to adapt training programs and retraining of professional staff to the needs of promising commodity markets and labor markets.

1. Introduction

Innovative and technological development of companies inevitably increases the role of marketing in strategic positioning in the Russian and international markets. This is achieved by promoting products and bringing them to new geographical markets or new consumer segments. The effectiveness of innovation and technological activity of market positioning is closely linked with the introduction of marketing innovations [1, 2].

As a result of the change in the conceptual basic premise of management (the transition from «production management» of individual goods, «management of local commodity markets» to «management of the product life cycle», «management of the complex of local markets of goods (services)» along the chain of the product life cycle) the requirements of employers for the professional competence of specialists in the field of marketing also change [3, 4]. The aim of the study is to substantiate the relationship between the parameters of the demand for professional competence of marketers and various factors of innovation and technological activity of enterprises, allowing more accurate determination of composition of professional and personal competencies and non-traditional requirements for job seekers.

2. Methods and Data

Previous research [5, 6, 7] has established that the complexity of the task, on the one hand, is based on the need to identify changes in the parameters of the demand for staffing of promising commodity markets which currently have no business customers. On the other hand, it is based on necessity to carry out empirical research based on a small number of observations, as innovation statistics in Russia are collected since 2010.

In this research, while studying marketing innovation we adhere to the definition first presented in the Oslo Manual of 2005 [8]. Innovations are considered as marketing innovations if they cover the research activity and development of new practical marketing techniques which acquire a key role in the efficiency of enterprises ensuring the success of new products. First of all, these include changes in

the design and packaging of goods, use of new methods of presentation and sale of goods and services and their promotion to markets.

To achieve this goal, the authors developed a system-structural approach to the study, which is aimed to justify the factors of influence on the change of business requirements for the competencies of marketers; to identify differences in the level of innovation and technological development in the sectors of the economy of the region; to study the requirements of employers for job seekers in the field of marketing; to identify the relationships between indicators of innovation and technological activity of enterprises and the needs for specialists in the field of marketing both at the state and regional level. The following methods served as the methodological basis of the study:

- a content analysis of strategic economic development documents at the state and regional level on the basis of the indicators «share of organizations engaged in marketing innovations», «costs of marketing innovations», «share of products produced with aid of marketing innovations» allowed to substantiate the relationship between the activity of marketing research and the change in the competitive positions of organizations in the commodity markets, to formulate a hypothesis about the growing demand for the marketers in the sectors of the economy actively engaged in marketing innovations;
- an empirical analysis of the differences in the sectors of the economy at state and regional level on the basis of the indicators «share of organizations engaged in marketing innovations», «costs of marketing innovations», «share of products produced with aid of marketing innovations» allowed to substantiate the relationship between the activity of marketing research and the change in the competitive positions of organizations in the commodity markets, to formulate a hypothesis about the growing demand for the marketers in the sectors of the economy actively engaged in marketing innovations;
- a comparative analysis of business needs for specialists in the field of marketing on the basis of the statistics of HeadHunter and the dynamics of the HH-index allowed to confirm the previously formulated hypothesis;
- a pilot survey of 60 enterprises at the regional level on the basis of service G Suite by Google Cloud [12] gave an opportunity to highlight the clusters of competences demanded from applicants to vacancies in the field of marketing.

3. Results

The current needs of the region's economy for marketing specialists are determined by a number of factors, including [13]:

- the scope of activities and size of the organization (spatial distribution, size)
- the position of organization in the production and technological chain formed along the product life cycle, different for mining (supply of raw materials and resources), processing (production of intermediate and/or final products) and infrastructure industries (promotion, sales).
- the technological level of production (high-tech, medium-tech, low-tech);
- the level of innovation and technological activity of enterprises, which determines
- the range of requirements for marketing competencies for enterprises engaged in marketing innovations, and enterprises conducting marketing research for the introduction of technological innovations.

The analysis of the innovation activity statistics allows revealing significant differences in its level by sectors of the economy. Thus, the share of organizations engaged in marketing innovations in the sector of economy «Communications; activities related to computer technology; information technology» is generally much higher than in the sector of economy «Mining, manufacturing». In years 2006-2015 there were almost twice as many innovation activities – 3.4% against 2%. At the same time, in these two sectors we can note a decrease in the level of innovation activity since 2010 [14. P. 12]. In addition, the innovative activity of organizations engaged in marketing innovation at the regional level differs by sectors of the economy relative to the state level (table 1).

The comparison of indicators of Russia and foreign countries allows drawing a conclusion about a significant lag in innovation activity of the Russian enterprises (figure 1) [15].

Table 1 - Comparative dynamics of the share of organizations implementing marketing innovations, %.

Sector of the economy	Russia			Krasnoyarsk Krai		
	2014	2015	Growth rate 2015/2014	2014	2015	Growth rate 2015/2014
Mining, manufacturing	2.0	2.0	100	2.2	2.5	114
Communications; activities related to computer technology; information technology	2.3	3.4	148	1.6	1.3	81.3

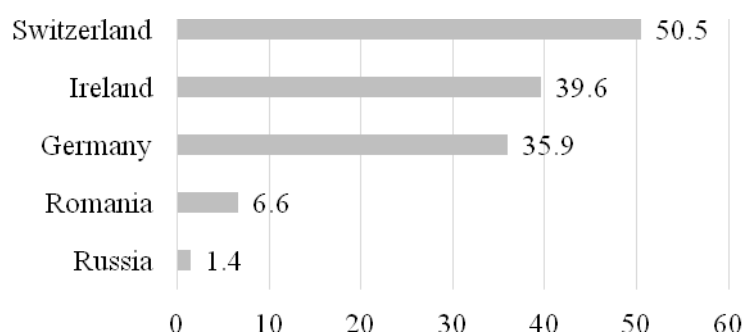


Figure 1-Share of organizations engaged in marketing innovation activities in the total number of organizations in the world [14, P. 304].

The difference in the level of innovation activity of enterprises and organizations in the sectors of the economy of the region is based on the resource orientation of the region's economy. However, despite the fact that the share of organizations engaged in marketing innovation (sector «mining, manufacturing») in Krasnoyarsk Krai is higher than the average share in Russia, organizations that are actively implementing technological innovations (the share in Krasnoyarsk Krai is 10.5% in 2015) are practically not engaged in marketing research. The share of market research in the structure of innovation activities in Krasnoyarsk Krai is only 1.3% in 2015 against 6% of Russia. At the same time, there is no statistics on the share of costs for marketing research in the region.

The activities of organizations that implement marketing innovations vary significantly depending on the technological level of production. Thus, in the high – tech manufacturing sector in the Russian economy in 2015 the share was 5.9%, against 3.0% in the medium-tech sector and 2.4% in the low-tech sector.

The share of the products produced through marketing innovations in Russia as a whole was 0.3% in the sector of «mining and manufacturing» in 2015; in the sector of «communications; activities related to computer technology; information technology» - 0.5%. It should be noted that the share of marketing innovations that have an impact on the introduction of new products in new markets varies slightly by sectors of the economy in 2015 [14]:

–introduction of products to new markets or new consumer groups is 1.8% in the sector of «mining, manufacturing» and 2.0% in the sector of «communications; activities related to computer technology; information technology»;

–introduction of products to new geographical markets in «mining and manufacturing» sector is 1.9%; in the sector «communication; activities related to computer technology; information technology» – 2.1%.

The study of the impact of market research on the competitive positions of organizations in the commodity markets seems to show the growing demand for the profession of "marketer". However, in Krasnoyarsk Krai the competition for jobs in the field of marketing is one of the lowest. The HH-index developed by HeadHunter is an evidence of this [16]. The index shows the scarcity of specialists through the ratio of the number of active resumes to vacancies (resume is considered active if it is open to employers, and in the last two months, the applicant at least once responded to the job, updated resume or edited it). The lower the index, the lower the competition among applicants in this field (figure 2).

The average HH-index is 2.0, this means that for one vacancy there are on average two resumes, against the Russian average – 3.6. The most serious competition among candidates in the professional sphere «marketing, PR and advertizing» is observed in Moscow – 4.6. Figure 3 shows the HH-index values for the subjects of Russia.

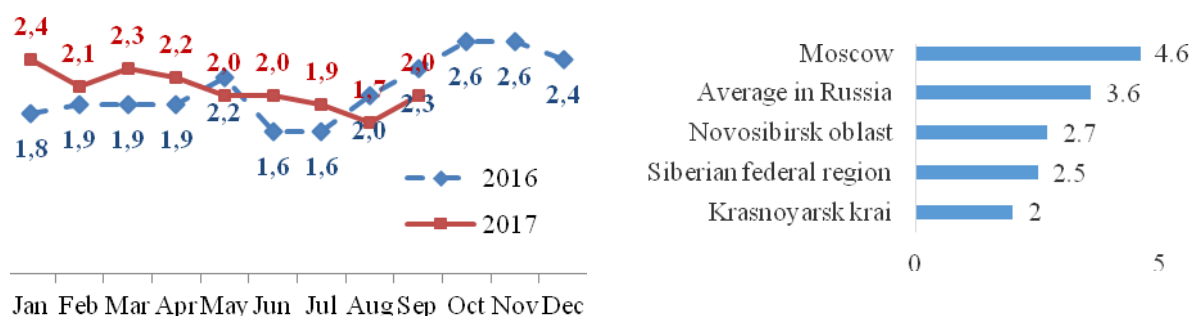


Figure 2 – Dynamics of the HH-index in the professional field of «Marketing, PR and advertising» in Krasnoyarsk in 2016-2017.

Figure 3 – Rating of values of the HH-index in the professional field of «Marketing, PR and advertising» in Russia in 2017.

Despite the low values of the index, the dynamics of the vacancy rate in the marketing sector in Krasnoyarsk is positive: the increase in vacancies was 35% in 2017 compared to 2016; the number of submitted resumes increased by 19%.

In order to determine the requirements that employers impose on job seekers in the field of marketing, a study was conducted; Respondents were the representatives of 60 enterprises in the Krasnoyarsk Krai. The study was conducted from March to April 2017 using Google-form service as the survey tool.

The results of the study revealed that the position of «marketer» exists only in 19% of enterprises (out of the total number of respondents). At the same time, 10% of the respondents plan to hire a marketing specialist in the near future (figure 4) [17, 18].

The survey was attended by companies of high-tech and low-tech sectors of the economy; the sector «communications; activities related to computer technology; information technology» (wholesale and retail trade; information technology; medical services; design and construction; consulting services; industrial activities; tourism activities; public catering; transport; media).

The study revealed that employers' requirements are not just limited to professional competencies in the field of functional marketing activities, but also apply to the personal qualities of potential employees. Thus, the following professional competencies were highlighted:

- definition of the target audience, its profile, barriers and insights;
- conduction of situational analysis and development of marketing strategy;
- development of innovative business model and value propositions for target audiences;

- definition of product portfolio, selection of key product and ways of its distribution in the digital environment;
- justification of KPI and metrics of company's brand promotion and key product in digital environment;
- definition and argumentation of the minimum budget for promotion in order to achieve the set goals;
- creation of communication, creative and media promotion strategy in the digital environment;
- development and preparation for launch of an advertising campaign in a digital environment;
- development of brand pyramid and marketing passport of key product;
- justification of the choice of methodology of calculation of brand equity and its impact on brand equity of the company;
- ability to promote the company/product on the Internet, including social networks;
- research of the market to increase sales; organization and implementation of marketing campaigns, incentive events; organization of work of specialized professionals: designer, SMM-manager, sales managers;
- ability to understand the market situation and choose the strategy of promotion and positioning of the company. Ability to track the «moves» of market leaders in their segment, analysis and application of their successful moves in companies work.

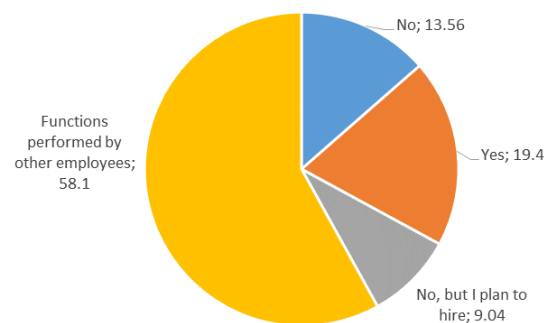


Figure 4 - Distribution of answers of respondents to the question: "Does your company have a position of marketer?".

Following personal competencies were highlighted:

- ability to listen and ask questions, ability to analyze large amounts of data, ability to develop and implement solutions;
- professionalism, creative thinking, ability to train, motivate and control sales staff, knowledge of the market and the product offered to the buyer, creative approach to job duties, close contact with media organizations, etc.;
- ability to reason and think, based on the market situation, and make the right decision;
- analytical mind, ability to collect and work with a large amount of statistical data, ability to predict: to be confident in what he/she does; to be able to negotiate; to learn quickly; to be able to sell yourself / the product; to have experience in sales; experience with internet-based marketing; experience with SMM;
- competence, desire to work.

It should be noted that some companies have unique, non – standard requirements for marketers – «cunning, smart, sociable», analytical mind, knowledge of the basics of marketing, the presence of

experience «in the field»; focus on ultra-high results, exorbitant accountability, dedication, friendliness.

The functional responsibilities of the marketer were primarily associated with marketing research, analytics, advertising and SMM (figure 5)

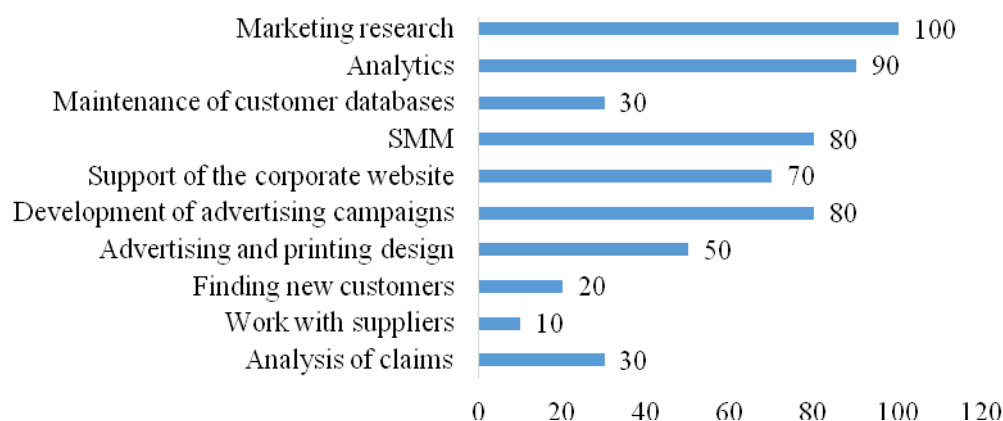


Figure 5-Distribution of answers to the question «What are the duties to be performed by the marketer?».

4. Conclusion

The results of the study showed that today there are two opposite trends in the relationship of employers to specialists in the field of marketing. The first trend indicates high requirements of employers to marketers. It means that employers associate the professionalism of marketers and the efficiency of company activity. The second trend suggests that employers underestimate the importance of professional education in sphere of marketing and the impact of marketing innovations on the change in the strategic positioning of the companies in the commodity markets. In the latter case, the functionality of a marketer is reduced to the implementation of the current operational tasks of promotion, organization and conducting seasonal sales promotion campaigns. This situation is due to the peculiarities of innovative and technological development of companies and the differentiation of their needs for specialists, providing links with the external environment [19, 20].

The system of regional monitoring of the needs of companies, formed in the regional economy, will allow identifying changes in the requirements of employers towards the competencies of marketers in proper time. The findings of the study can be used by educational institutions to adapt educational programs and retraining of professional personnel in the field of marketing to the needs of promising commodity and labor markets.

5. Further research

Further research should be undertaken to identify the differentiation in changing the needs of large and small industrial companies and to clarify the models of competence of specialists in the field of marketing for different target groups of the b2b market. A progression of this work is the approbation of the presented research for the project “Krasnoyarsk Technological Valley”. The reported study was funded by Krasnoyarsk Regional Fund of Science according to the research project: “Determination of the development potential of high-tech industries for the deep processing of aluminum and the “Technologic Valley” for the formation of the added value of the region”, No.2018010903042, 2018..

References

[1] Ryzhkova O. V., Borodkina V. V. The Success of regional innovation ecosystems and their integration into the national innovation ecosystem // in the collection: Industrial policy in the digital

economy: problems and prospects Works of scientific and practical conference with international participation. Under the editorship of A. V. Babkin. 2017. P. 302-310.

[2] Guskova N. D. Neretina E. Formation of competencies of management personnel of industrial companies in the transition to the digital economy // in the book: Digital economy and industry 4.0: new challenges Works of scientific and practical conference with international participation. Edited by V. Babkin. 2018. P. 272-280.

[3] Vasilyeva Z. A., Ryzhkova O. V., Filimonenko I. V. Formation and stimulation of demand for innovations as a condition of development of innovative clusters in the economy of the region // Economics and entrepreneurship. 2016. No. 10-3 (75-3). P. 182-186.

[4] Mingaleva Zh., Maksimenko I. I. Scientific and educational potential of innovative development of national economy. scientific and technical sheets of St. Petersburg state Polytechnic University. Economics. -2008. - № 4 (61). - P. 21-28.

[5] Filimonenko I.V., Vasilyeva Z.A., Karpycheva O.V., Ryzhkova O.V Diagnostics of promising labor markets for high-tech and innovative sectors of the regional economy // 4th International multidisciplinary scientific conference on social sciences and arts. SGEM. - 2017. C. 311-320

[6] Filimonenko I. V., Rusina, A. N., Karpycheva O. V., Identification of occupations in demand and training programs at the regional labor market // Journal of Creative economy. 2017. Vol. 11. No. 11. P. 1145-1156.

[7] Vasilyeva Z., Filimonenko I Verification of the prediction for the staffing need for the economy of the region // Modern Science: actual problems of theory and practice. Series of «Economics and Law ». 2017. №12, p. 19-26

[8] Oslo Manual. Guidelines for collecting and interpreting innovation data. The third edition. A joint publication of OECD and Eurostat. – 2010. Moscow, P. 166

[9] Strategy for socio-economic development of the Krasnoyarsk region till 2030 (draft) – [Electronic resource] URL: <http://www.krskstate.ru/2030> (accessed 24.06.2017)

[10] Innovative Region-2020. Strategy of innovative development of Krasnoyarsk region for the period up to 2020. - The government of the Krasnoyarsk territory. - 2011.

[11] The concept of industrial policy of Krasnoyarsk region until 2030 from 15.12.2015. [electronic resource] URL: <http://www.krskstate.ru/promtorg/strateg> (circulation date 24.06.2017)

[12] G Suite by Google Cloud. – URL: <https://gsuite.google.ru/intl/ru/products/forms/>

[13] Kozitsina A.N., Filimonenko I.V. Strategic relationship between innovation development and management of human resources potential in the region // Economic and Social Changes: Facts, Trends, Forecast. 2015. № 1 (37). C. 171-181.

[14] Indicators of Innovation in the Russian Federation: 2018 : Data Book / N. Gorodnikova, L. Gokhberg, K. Ditkovskiy et al.; National Research University Higher School of Economics. – Moscow: HSE, 2018.

[15] Andryushchenko A., Yakimova E. Analysis of the main trends of development of the regional labor market on the materials of the statistics of the Krasnoyarsk Territory // Modern science: actual problems of theory and practice. Series: Economics and law. 2017. No. 12. P. 82-90.

[16] The official website of company HeadHunter. - URL: <https://krasnoyarsk.hh.ru/article/index?from=menu>

[17] Andryushchenko A., Yakimova E. Development of a comprehensive methodology for assessing and forecasting the needs of business and the region in professional staff // labor Economics. 2017. Vol. 4. No. 4. P. 323-342.

[18] Z. Vasilyeva, Vcherashny P. Filimonenko, I., Rusina A. Methodology for staff monitoring of traditional and new economic sectors of the region // 4th International multidisciplinary scientific conference on social sciences and arts SGEM 2017. No. 5. - P. 659-666

[19] Shabaeva, S.V., Fedorova, S.A., Stepus, I.S., Demanded professions in the Arctic zone of Russia as a reflection of the priorities for the development of the macro-region's economy, Problems of Management, № 7, Volume 1, 2016, pp. 104-117

[20] The Employment of graduates: methodology, monitoring and analysis, ed. by A. V. Voronin, V. A. Gurov, L. M. Serova. M.: Economics, 2015. 372 p.